Date: Friday, 9/1/2006 12:12:03 PM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	**Drawing Name**	: 0H-58 SKIDTUBE ASSEMBLY
Job Number	: 28395A		
Estimate Number	: 10475		
P.O. Number	: N/A	**Part Number**	: D058672041
This Issue	: 9/1/2006 **S.O. No.** : N/A	**Drawing Number**	: D2922 REV A1
Prsht Rev.	: NC	**Project Number**	: N/A
First Issue	: N/A **Type** : LANDING GEAR	**Drawing Revision**	: A1
Previous Run	: 28048A	**Material**	: N/A
Written By	:	**Due Date**	: 9/30/2006 **Qty:** 1 **Um:** Each
Checked & Approved By	: 06 09.01		
Comment	: Est Rev:C 02.06.28 Re-format; ECN 258 KJ Est Rev:D 06.02.06 Added Dt8025 EC		

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	DC	DOCUMENT CONTROL

Comment: DOCUMENT CONTROL
Photocopy bluefile & type labels per PPP D058-672-041 CHG 001 KJ 06. 09.07

Seq. #:	Machine Or Operation:	Description :
2.0	D2620	Bent 206 Skidtube

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2620	Bent Tube 3" OD	B22831 DP 6-9-5

Seq. #:	Machine Or Operation:	Description :
3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Deburr Fwd edge of tube DP 6-9-5

2-Weld D2794 cap as per QSI 004 and Dwg D2922. Use aluminum rod.
A/R Aluminum Rod M 18839 M101655 BE 6-9-5

3-Drill pilot holes using drill jig DT8480 and DT8025 open to 0.312" dia. DP 6-9-5

4-Drill holes for wearplates using DT 8487Open to 0.297" dia. DP 6-9-5

5-Drill holes for aft cap as per Dwg D2922using drill jig DT 8025.Open using #6 Drill Bit BE 6-9-6

7-Remove inner indexing ridge on aft end of skidtubeas per Dwg D2922 BE 6-9-6

8-Deburr and Blow out all chips form inside the tube BE 6-9-6

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W/O:	WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: ______________________ **PAR #:** _______ **Fault Category:** __________________ **NCR:** Yes No **DQA:** _____ **Date:** _________

QA: N/C Closed: _____ **Date:** _________

NCR:	WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/1/2006 12:12:03 PM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services
Drawing Name: 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28395A
Part Number: D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :

9-Cut aft end of D2620 bent tube as per dwg D2922 DP 6-9-5

4.0	HAND FINISHING1	HAND FINISHING RESOURCE #1

Comment: HAND FINISHING RESOURCE #1
Chemical Conversion Coat as per QSI 005 4.1 BE 6-9-6

5.0	D2923	Web

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2923	Web	B28406 BE 6-9-6

6.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Open holes to finished size as per Dwg D2922(without cutting fluid)

2-Countersink crossbolt spacer holes as per Dwg D2922(without cutting fluid)

3-Deburr and Blow out all chips from inside the tube

4-Bond D2923 web in place as per QSI 015. Ensure holes lineup

BE 6-9-6

A/R Sikaflex-291 M101953
Sikaflex expire date: 06-10-21

7.0	QC5	INSPECT WORK TO CURRENT STEP

Pm 06-09-7 (1)

Comment: INSPECT WORK TO CURRENT STEP

8.0	D2794	Cap

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Qty Part Number	Description	Batch
1 D2794	Fwd Cap	B14400 BE 06-09-05

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: ____________________ **PAR #:** _______ **Fault Category:** __________________ **NCR:** Yes No **DQA:** _____ **Date:** _________

QA: N/C Closed: _____ **Date:** _________

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/1/2006 12:12:03 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services
Drawing Name: 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28395A
Part Number: D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :
9.0	D2649	Crossbolt Spacer

Comment: Qty.: 22.0000 Each(s)/Unit Total : 22.0000 Each(s)
Pick:
Qty Part Number Description Batch
22 D2649 Crossbolt spacer B25864 BE 06-09-07

Seq. #:	Machine Or Operation:	Description :
10.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Weld D2649 cross bolt spacers as per QSI 004 and Dwg D2922.(Remember to back drill each hole to 0.250" before welding the other side)
A/R Aluminum Rod m 101010 BE 06-09-07

3-Grind welds flush as per Dwg D2922 BE 06-09-07

4-Counterbore 5/16" x 0.750" deep as per Dwg D2922 BE 06-09-07

Seq. #:	Machine Or Operation:	Description :
11.0	QC5/9	WELD INSPECTION

Comment: WELD INSPECTION PmC 06/09/07

Seq. #:	Machine Or Operation:	Description :
12.0	POWDER COATING	POWDER COATING

Comment: POWDER COATING
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3 a.m 06-09-07 (1)

Seq. #:	Machine Or Operation:	Description :
13.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION [illegible] 06-09-07

Seq. #:	Machine Or Operation:	Description :
14.0	D26483	Wearpad

Comment: Qty.: 5.0000 Each(s)/Unit Total : 5.0000 Each(s)
Pick:
Qty Part Number Description Batch
5 D2648-3 Wearpad B27169-2 a.m 06-09-07 (1)

Form: rprocess

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: ____________________ **PAR #:** _______ **Fault Category:** __________________ **NCR:** Yes No **DQA:** _____ **Date:** _________

QA: N/C Closed: _____ **Date:** _________

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/1/2006 12:12:03 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services
Drawing Name: 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28395A
Part Number: D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :

15.0 D265615 — Wearplate

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2656-15	Wearshoe	B24845

16.0 D265621 — Wearplate

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2656-21	Wearshoe	B27075

17.0 D2924 — Wearshoe

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2924	Wearshoe	B12425

18.0 MS27039108 — Screw

Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
50	MS27039-1-08	Screw	m100854

19.0 AN960JD10L — Washer

Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
50	AN960JD10L	Washer	m100233

a.m 06-09-07 (1)

Form: rprocess

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W/O:	WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: ____________________ PAR #: _______ Fault Category: _________________ NCR: Yes No DQA: _____ Date: _________

QA: N/C Closed: _____ Date: _________

NCR:	WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/1/2006 12:12:04 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28395A **Part Number:** D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :
20.0	ALS41032130	Insert

Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
50	ALS4-1032-130 or (see QSI 017)	Insert	M19393

Seq. #:	Machine Or Operation:	Description :
21.0	D26511	Plug

Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
20	D2651-1	Plugs	B27362 (15) (5x) B28400

Seq. #:	Machine Or Operation:	Description :
22.0	D26513	O-Ring

Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
20	D2651-3	O-Rings	B25866

Seq. #:	Machine Or Operation:	Description :
23.0	D2646	Aft Cap

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2646	Aft Cap	~~B28041~~ B28041

Seq. #:	Machine Or Operation:	Description :
24.0	MS27039108	Screw

Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
2	MS27039-1-08	Screw	~~B28041~~ M100854 a.m 06-01-08

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: ______________ **PAR #:** ______ **Fault Category:** ______________ **NCR:** Yes (No) **DQA:** [illegible] **Date:** 06/05/08

QA: N/C Closed: _____ **Date:** _________

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevD

Date: Friday, 9/1/2006 12:12:04 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services
Drawing Name: 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28395A
Part Number: D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :
25.0	AN960JD10L	Washer

Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
2	AN960JD10L	Washer	m100233

a.m 06-09-08

Seq. #:	Machine Or Operation:	Description :
26.0	HAND FINISHING1	HAND FINISHING RESOURCE #1

Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearpads as per dwg D2922. Insert a drop of Sikaflex at insert hole before installing wearplates.
A/R Sikaflex-291 m101953
Sikaflex expire date: 10-21-06

2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D2922

3-Install D2646 Aft Cap and seal with Sikaflex adhesive.Clean excess adhesive a.m 06-09-08
A/R Sikaflex-291 m101953
Sikaflex expire date: 10-21-06

3- Wing Walk as per Dwg D2922 and QSI 005 4.4 Batch:
m100667 a.m 06-09-20

Seq. #:	Machine Or Operation:	Description :
27.0	QC3/5	INSPECT WORK/WING WALK

06-09-26

Comment: INSPECT WORK/WING WALK

Seq. #:	Machine Or Operation:	Description :
28.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Identify and Stock
Location:_______

06/9/28

Seq. #:	Machine Or Operation:	Description :
29.0	DC	DOCUMENT CONTROL

Comment: DOCUMENT CONTROL
Inspection Level 21

06/09/28

Job Completion

06.09.28

Form: rprocess

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: ____________________ PAR #: _______ Fault Category: __________________ NCR: Yes No DQA: _____ Date: _________

QA: N/C Closed: _____ Date: _________

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevD

DESIGN RF	DRAWN BY RF	DART AEROSPACE USA, INC. BELLEVUE, WA	
CHECKED	APPROVED	DRAWING NO. D2922	REV. A SHEET 1 OF 2
DATE 99.10.14		TITLE OH-58 SKIDTUBE ASSEMBLY	SCALE NTS
A	99.10.14	NEW ISSUE	
A1	01.08.20	Ø0.640 WAS Ø0.625	

DART

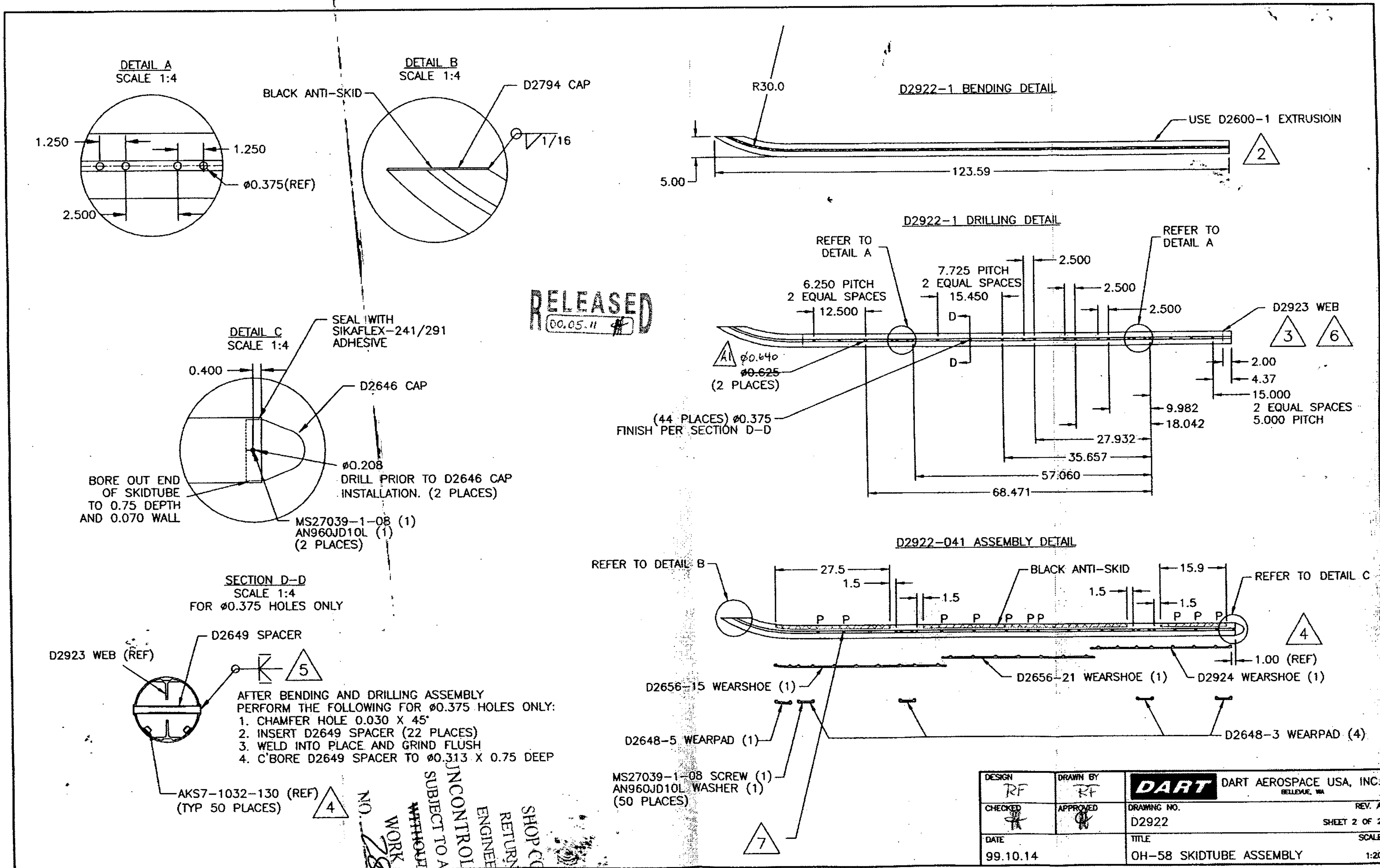
QA COPY ISSUED

RELEASED 00.05.11

Qty	Part Number	Description
X	D2922-041	SKIDTUBE ASSEMBLY
*	D2600-1	EXTRUSION
1	D2646	AFT CAP
4	D2648-3	WEARPAD
1	D2648-5	WEARPAD
22	D2649	CROSS BOLT SPACER
20	D2651-1	PLUG
20	D2651-3	O-RING
1	D2656-15	WEARSHOE
1	D2656-21	WEARSHOE
1	D2794	CAP
1	D2923	WEB
1	D2924	WEARSHOE
50	AKS7-1032-130 or AKS4-1032-130 or ALS7-1032-130 or ALS4-1032-130	INSERT
52	AN960JD10L	WASHER
52	MS27039-1-08	SCREW

GENERAL NOTES:

1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
2) LENGTH OF D2600-1 EXTRUSION REQUIRED BEFORE BENDING = 160 INCHES.*
3) INSERT D2923 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING.
4) USE DART DRILL TEMPLATE DT8406 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL AKS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL MS27039-1-08 SCREWS AND AN960JD10L WASHERS IN ALL INSERTS. SEAL WITH SIKAFLEX-241/291.
5) WELDING TO BE DONE PER DART QSI 004.
6) FINISH:
   ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2923 WEB
   POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
   BLACK ANTI-SKID PAINT AS INDICATED TO 0.50 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
7) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (20 PLACES).



DESIGN RF	DRAWN BY RF	DART	DART AEROSPACE USA, INC. BELLEVUE, WA
CHECKED	APPROVED	DRAWING NO. D2922	REV. A SHEET 2 OF 2
DATE 99.10.14		TITLE OH-58 SKIDTUBE ASSEMBLY	SCALE 1:20

NO. 2

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name Barclay Elliott
Joint Welding Procedure Tig
Part number and Job number A058672041 / B28396A

TEST WELDS REQUIRED

BASE METAL Alum **WELDING PROCESS** Tig
Penetration Complete [ ] Partial [✓] **Single Weld** [✓] **Double Weld** [ ]
Current AC [✓] DC [ ] **Backing** YES [ ] NO [✓]

	Position		**Vertical** Down [ ]	Up [ ]
Sheet Groove	1G [ ]	2G [ ]	3G [ ]	4G [ ]
Tube Groove	1G [ ]	2G [ ]	5G [ ]	6G [ ]
Sheet Fillet	1F [ ]	2F [ ]	3F [ ]	4F [ ]
Tube Fillet	1F [ ]	2F [ ]	4F [ ]	5F [ ]

Crossbolt Spacer Welded into A058672041 Skidtube

TEST RESULTS

Visual	Pass [✓]	Fail [ ]
Penetration	Pass [✓]	Fail [ ]
Crossbolt Spacer	Pass [✓]	Fail [ ]

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Date of Test Coupon 06/09/06 **Qualifier** [signature]